User's Manual

Headset Microphone

Type 4035

Compact Omnidirectional Microphones Ø12mm

Type 4033
Type 4036
Type 4037

DPA MICROPHONES

Headset Microphone Type 4035

Compact Omnidirectional Microphones Type 4033, Type 4036, Type 4037

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The cartridge

Types 4035, 4033, 4036 and 4037 are omnidirectional (pressure) microphones which uses the same microphone capsule as the standard microphones Types 4004 and 4007: A 12mm diameter prepolarized condenser cartridge. The diaphragm is a nickel foil which has been coated with a ultra-thin polymer layer for optimum corrosion resistance. The microphone housing is of German silver, an alloy with a high content of nickel to match the stable thermal qualities of the diaphragm. For optimum stability the microphone cartridge has undergone a special pre-aging process which releases all tensions in the materials and stabilizes the polarization voltage.

The preamplifier

Types 4035, 4033, 4036 and 4037 use inbuilt ultra-small, thickfilm preamplifiers with unity-gain, low noise FET-amplifier technology. The thickfilm technology enables the microphone cartridge to be mounted on exceptionally compact microphone housings with the preamplifiers mounted directly behind the microphone cartridge. A circuit of passive components in the standard 3-pin XLR connector adapts the P48 phantom powering, separates the supply voltage from the audio signal and act as an impedance balancing circuit for optimum noise immunity. The preamplifier has a cable drive capability of up to 100 m after the XLR-connector (See Fig. 1 for pin designation).

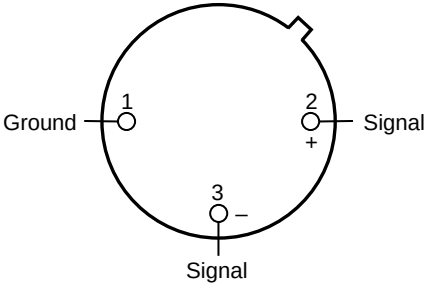
The Types 4035, 4033, 4036 and 4037 comes with an individual calibration chart of the self noise, sensitivity and the individual frequency response.

The mechanical design

Types 4035, 4033, 4036 and 4037 are acoustically identical, but differ in their mechanical design. Types 4033, 4036 and 4037 are delivered with 5m of extremely flexible, high quality microphone cable as standard and the Type 4035 is delivered with 3m cable. The 4037 has its cable mounted at 90o to the microphone axis, the 4036 has its cable mounted behind the axis and the 4033 has a standard triaxial Lemo-connector for simple and safe mounting and removal of the microphone.

Important: The Microphone will only meet its specifications if powered correctly.

Fig. 1. External view of the output socket of the standard 3-pin XLR-connector used in the Types 4035, 4033, 4036 and 4037.



Specifications:

Cartridge type:
Pre-polarized condenser
Brüel & Kjær Type MM0043

Principle of operation: Pressure

Power Supply: Phantom P48

Frequency range:
On-axis: 20Hz - 40kHz ±2dB

Phase response:
Phase matching between any two microphones: ±5° (50 Hz to 20kHz)

Directional characteristics:
Omnidirectional

Sensitivity:
Nominally 8mV/Pa (at 250Hz)

Equivalent noise level A-weighted:
Typ. 24dB(A) re. 20µPa

Equivalent noise level CCIR 468-1:
Typ. 36dB (max. 38dB)

Max SPL before clipping occurs:
144dB SPL peak

Total Harmonic Distortion:
130 dB SPL peak (<0.5% THD)

Preamplifier:

Output impedance: <300 Ohm

Cable drive capability: Up to 100m

Difference frequency distortion:
(DF2, DF3, Df = 80Hz) <1%
at 136dB SPL peak

Temperature coefficient:
-0,025dB/°C at 25°C, 1013 hPa, 250Hz

Static pressure coefficient:
-0,002dB/hPa at 25°C, 1013 hPa, 250Hz

Influence of vibration:
69dB equivalent SPL for m/s2 in direction of greatest sensitivity

Influence of magnetic field:
45dB equivalent SPL for 80A/m, 50Hz in direction of greatest sensitivity

Operating temperature range:
-10 to +70°C (+14 to 158°F)

Dimensions:

Microphone length:
- 4035: 20mm (260mm overall length ex. cable)
- 4033: 40mm
- 4036: 21mm
- 4037: 21mm

Microphone diameter: 12mm

Capsule diameter: 12mm

Weight:
- 4035: 27.7g (microphone)
- 4033: 14g (without cable)
- 4036: 10g (without cable)
- 4037: 10g (without cable)

Accessories Included:

Miniature Holders

DMM0001 Miniature Clip (Only 4036)

Windscreens

DUA0030 Small Windscreen for Ø12mm Microphone

Accessories Available for Type 4035:

Windscreens

UA0658 Windscreen for Ø12mm Microphone

Accessories Available for Type 4033, 4036 and 4037:

Microphone Holders for Musical Instruments

CH4000	Microphone Holder for Cello
GM4000	Gooseneck Mount, 19mm
SAX4000	Microphone Holder for Saxophone and Horn
VH4000	Microphone Holder for Violin and Bass

Shock Mounts

CSM4000	Compact Shock Mount
TSM4000	Table Shock Mount

Shock Mount Rubbers

DDS0012	Rubber Mount 11-13mm, Extra Soft

Floor & Table Stands

CAP0400	Compact Active Pole, 400mm
CAP0750	Compact Active Pole, 750mm
CAP1250	Compact Active Pole, 1250mm
DUA0100	Stand Extension, 100mm
DUA0250	Floor Base, Ø250mm
DUA0500	Stand Extension, 500mm
FGS4000	Flamingo Grand, Single Stand
FGT4000	Flamingo Grand Twin, Double Stand
FJS4000	Flamingo Junior, Short Single Stand
MB4000	Magnet Base
SJD4000	Swivel Joint, Double
SJS4000	Swivel Joint, Single
TB4000	Table Base

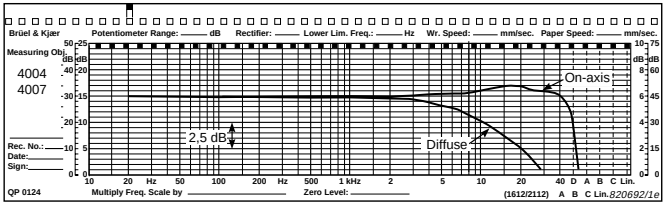


Fig. 2. On-axis and diffuse-field responses of Types 4035, 4033, 4036 and 4037.

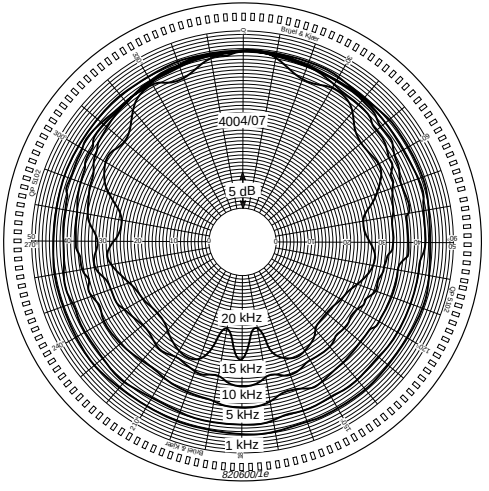


Fig. 3. Directional characteristics of Types 4035, 4033, 4036 and 4037.

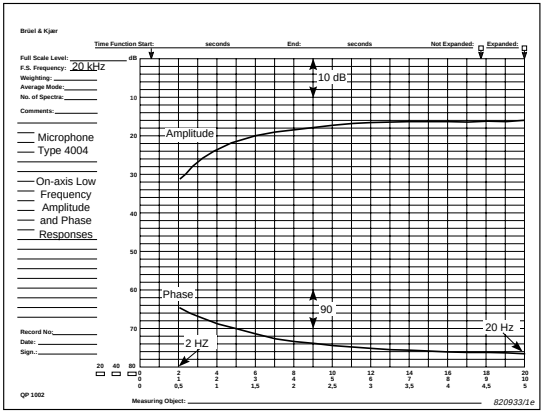


Fig. 4. On-axis amplitude and phase response of Types 4035, 4033, 4036 and 4037 plotted using a linear frequency axis for evaluation of the phase response.

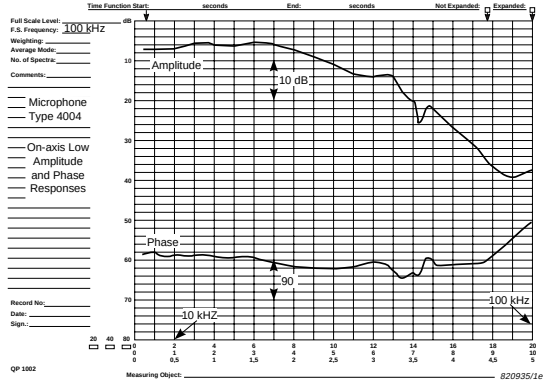


Fig. 5. On-axis low frequency amplitude and phase of Types 4035, 4033, 4036 and 4037.

1. Strap the microphone around the headbrace of the headphone so the cable is also secured by the strap. Use the rubber block to protect the cable, ensuring there is enough slack to allow the microphone arm to be adjusted later. (see fig. 6)

2. Tighten the strap using a screwdriver.

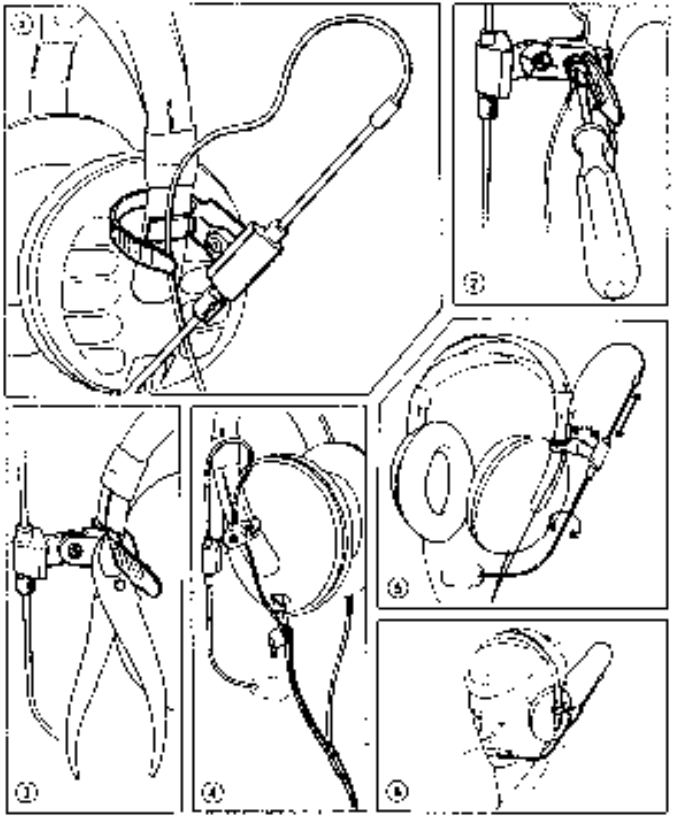
3. Cut off any excess at the loose end of the strap.

4. Tape the microphone cable and the headphone cable together.

5. Make adjustments to the orientation of the headset unit.

6. When the headphones are worn, the microphone windscreen should just touch the lips at the corner of the mouth (to avoid pop noise.)

Fig. 6. Mounting the Headset Microphone Type 4035.



It is important to bear in mind the following points with regards to mounting, microphone care and the use of accessories:

- The Types 4033, 4036 and 4037 are delivered in a rugged case together with a reel for the cable. Inside the reel there is room for both the microphone and the XLR-connector for maximum protection. When packing the microphones, first place the microphone and the XLR-connector inside the reel, then roll up the cable.

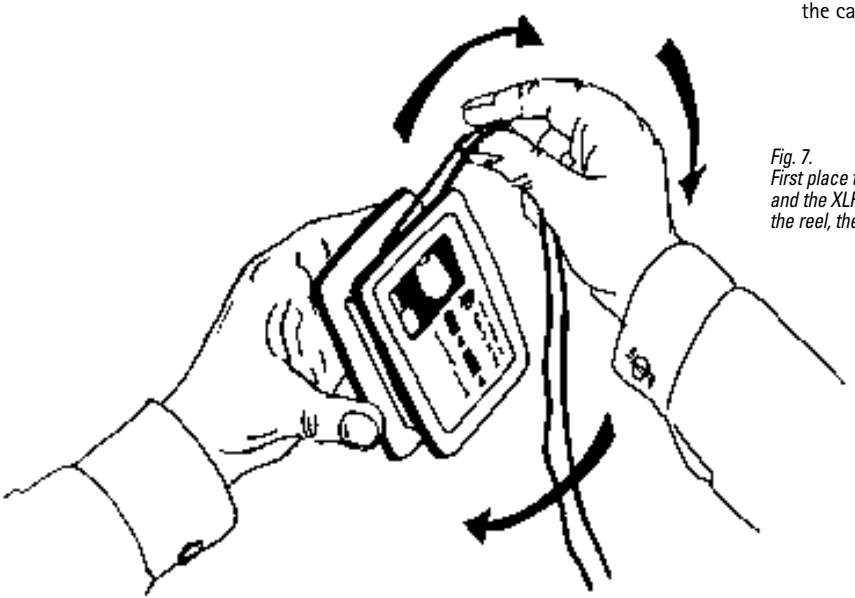


Fig. 7.
First place the microphone and the XLR-connector inside the reel, then roll up the cable.

- The microphone cartridge is tightly secured to the main body housing. No attempt should be made to remove it. If a replacement cartridge is required, contact your local DPA Microphones representative.

- Use of windscreen is recommended when microphones are used in dirty or dusty environments.

- When not in use, the microphone should be disconnected and kept in the case supplied.

Service & Repair

Products from DPA Microphones are extremely stable and there should not be any significant change in the specifications with time and use. If, however, you are not totally satisfied with the characteristics exhibited by these products, then contact your nearest DPA Microphones representative for further details of service and the repair facilities that are available. DPA Microphones has a maximum seven working days in-house service policy, guaranteeing that no more than seven working days will elapse from the day we receive the item for service to the day we are ready to return it to you. Your satisfaction is our satisfaction.

Please contact DPA Microphones for your nearest representative on tel. +45 48 14 28 28 or fax +45 48 14 27 00.

Warranty

All products from DPA Microphones are covered by a limited warranty on both their mechanical functionality and their documented specifications. We are so confident of the quality of these products, that this warranty is valid for one year from the date of purchase, as long as the items are not directly mistreated or abused. In case of a warranty claim, your invoice is your warranty registration.

CE Standard

The CE-mark guarantees all products conform with relevant standards approved by the European Community. The products described in this User's Manual comply with current relevant standards when used with cables from DPA Microphones.
EMC Directive: 89/336/EEC, amended by 92/31/EEC and 93/68/EEC
Low Voltage Directive: 73/23/EEC, amended by 93/68/EEC

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